



National Transportation Safety Board Aviation Accident Final Report

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| Location: | MILWAUKEE, WI | Accident Number: | CHI89FA071 |
| Date & Time: | 04/11/1989, 1031 CDT | Registration: | N4247U |
| Aircraft: | SIKORSKY S-58T | Aircraft Damage: | Substantial |
| Defining Event: | | Injuries: | 1 Serious |
| Flight Conducted Under: | Part 133: Rotorcraft Ext. Load | | |

Analysis

THE ACCIDENT HELICOPTER DESCENDED INTO SLOPING TERRAIN AND ROLLED OVER WHILE PERFORMING EXTERNAL LOAD OPERATIONS. THE HELICOPTER HAD JUST PICKED UP A LOAD AND WAS MOVING Laterally WHEN IT SUSTAINED A LOSS OF ANTI-TORQUE CONTROL AND THE FUSELAGE STARTED AN UNCOMMANDED AND UNCONTROLLED ROTATION TO THE RIGHT. THE PIC WAS ABLE TO JETTISON HIS EXTERNAL LOAD INTO A CLEAR AREA AND MOVE THE HELICOPTER AWAY FROM OBSTRUCTIONS BEFORE INITIATING AN OUT OF GROUND EFFECT HOVERING AUTOROTATION.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: DISCONNECT OF THE TAILROTOR DRIVE SHAFT COUPLING.

Findings

Occurrence #1: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION

Phase of Operation: HOVER

Findings

1. (C) ROTOR DRIVE SYSTEM, TAIL ROTOR DRIVE SHAFT COUPLING - DISCONNECTED
2. (F) ROTOR DRIVE SYSTEM, TAIL ROTOR DRIVE SHAFT - BENT

Occurrence #2: LOSS OF CONTROL - IN FLIGHT

Phase of Operation: HOVER

Findings

3. (F) DIRECTIONAL CONTROL - RESTRICTED - PILOT IN COMMAND

Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER

Phase of Operation: DESCENT - EMERGENCY

Findings

4. TERRAIN CONDITION - DIRT BANK/RISING EMBANKMENT
5. (F) DIRECTIONAL CONTROL - RESTRICTED - PILOT IN COMMAND

Factual Information

Pilot Information

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|----------------------------------|---|-------------------------------|------------|
| Certificate: | Commercial | Age: | 44, Male |
| Airplane Rating(s): | None | Seat Occupied: | Right |
| Other Aircraft Rating(s): | Helicopter | Restraint Used: | Seatbelt |
| Instrument Rating(s): | Helicopter | Second Pilot Present: | No |
| Instructor Rating(s): | Helicopter | Toxicology Performed: | No |
| Medical Certification: | Class 2 Valid Medical--no waivers/lim. | Last FAA Medical Exam: | 02/21/1989 |
| Occupational Pilot: | Last Flight Review or Equivalent: | | |
| Flight Time: | 9562 hours (Total, all aircraft), 3400 hours (Total, this make and model), 8275 hours (Pilot In Command, all aircraft), 99 hours (Last 90 days, all aircraft), 48 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft) | | |

Aircraft and Owner/Operator Information

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|--------------------------------------|---------------------------------------|----------------------------------|---------------|
| Aircraft Make: | SIKORSKY | Registration: | N4247U |
| Model/Series: | S-58T S-58T | Aircraft Category: | Helicopter |
| Year of Manufacture: | | Amateur Built: | No |
| Airworthiness Certificate: | Transport | Serial Number: | 58-1537 |
| Landing Gear Type: | Tailwheel | Seats: | 3 |
| Date/Type of Last Inspection: | 03/15/1989, Continuous Airworthiness | Certified Max Gross Wt.: | 13000 lbs |
| Time Since Last Inspection: | 17 Hours | Engines: | 2 Turbo Shaft |
| Airframe Total Time: | 4326 Hours | Engine Manufacturer: | P&W |
| ELT: | Not installed | Engine Model/Series: | PT6T-6 |
| Registered Owner: | MIDWEST TRUXTON | Rated Power: | 970 hp |
| Operator: | Operating Certificate(s) Held: | | |
| Operator Does Business As: | MIDWEST HELICOPTER AIRWAYS | Operator Designator Code: | |

Meteorological Information and Flight Plan

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|----------------------------------|-------------------------|---|------------------|
| Conditions at Accident Site: | Visual Conditions | Condition of Light: | Day |
| Observation Facility, Elevation: | MKE, 723 ft msl | Distance from Accident Site: | 3 Nautical Miles |
| Observation Time: | 1052 CDT | Direction from Accident Site: | 200° |
| Lowest Cloud Condition: | Unknown / 0 ft agl | Visibility | 7 Miles |
| Lowest Ceiling: | Overcast / 25000 ft agl | Visibility (RVR): | 0 ft |
| Wind Speed/Gusts: | 10 knots / 20 knots | Turbulence Type Forecast/Actual: | / |
| Wind Direction: | 210° | Turbulence Severity Forecast/Actual: | / |
| Altimeter Setting: | 30 inches Hg | Temperature/Dew Point: | 6° C / -8° C |
| Precipitation and Obscuration: | | | |
| Departure Point: | MILWAUKEE, WI (MKE) | Type of Flight Plan Filed: | None |
| Destination: | | Type of Clearance: | None |
| Departure Time: | 1010 CDT | Type of Airspace: | Class G |

Wreckage and Impact Information

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|---------------------|-----------|----------------------|-------------|
| Crew Injuries: | 1 Serious | Aircraft Damage: | Substantial |
| Passenger Injuries: | N/A | Aircraft Fire: | None |
| Ground Injuries: | N/A | Aircraft Explosion: | None |
| Total Injuries: | 1 Serious | Latitude, Longitude: | |

Administrative Information

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|-----------------------------------|--|--------------|------------|
| Investigator In Charge (IIC): | WILLIAM C BRUCE | Report Date: | 06/30/1992 |
| Additional Participating Persons: | J ANDERSON; MILWAUKEE, WI | | |
| Publish Date: | | | |
| Investigation Docket: | NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at pubinquiry@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ . | | |

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The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).